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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,454	08/19/2003	Sandeep Khanna	002489.P035D	7043
7590	04/19/2004		EXAMINER	
Daniel E. Ovanezian BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP Seventh Floor 12400 Wilshire Boulevard Los Angeles, CA 90025-1026			PHAM, LY D	
			ART UNIT	PAPER NUMBER
			2818	
DATE MAILED: 04/19/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/644,454	Applicant(s) KHANNA, SANDEEP	
	Examiner Ly D Pham	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-30 and 43-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21,22,24,25,30 and 43-47 is/are rejected.
- 7) ☒ Claim(s) 23 and 26-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0803</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's response to the Election/Restriction requirement filed April 09, 2004 has been entered. Claims 21 – 30 and 43 – 47 have been elected. Claims 1 – 20, 48 – 50, and 51 – 53 have been canceled.
2. Claims 21 – 30 and 43 – 47 are presented for the examination.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 21, 22, 24, 25, 30, and 43 – 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Churchill et al. (US Pat 6,286,118 B1).

Regarding **claims 21, 43 and 44**, Churchill et al. disclose an apparatus/method comprising:

a content addressable memory (CAM) array (col. 4, lines 6 – 15);
a clock circuit coupled to the CAM array (fig. 2, clock pulse generator 210); and
a programmable delay circuit coupled to receive a reference clock signal (fig. 5, programmable delay 502 receiving clock pulse CCPULSE) and generate a programmable

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delayed clock signal (fig. 5, output SACLK from 502) using a delay element for the clock circuit (fig. 6, delay elements 620, 622, 626, 628, etc...), for outputting data based on the delayed clock signal (fig. 2, output register 218 output data based on delayed SCLK from 212).

Regarding **claims 22 and 45**, Churchill et al. further disclose the apparatus of claims 21 and 44, wherein the programmable circuit comprises: a plurality of the delay elements to generate a plurality of delayed clock signals (shown above); a programmable register to store information indicating a particular delayed clock signal of the plurality of delayed clock signals (figs. 5 & 6, col. 2, lines 57 – 64, and abstract: scan register provides the programmable delay informations S1 ~ S6 of figs. 5 & 6 from decode logic 504); and a multiplexer coupled with the programmable register and the plurality of delay elements to select the particular delayed clock signal based on the information (col. 4, lines 50 – 56, col. 14, lines 18 – 44).

Regarding **claims 24 and 46**, Churchill et al. also teach the apparatus of claims 22 and 43, wherein each of the plurality of delay elements provides a different time period delay to the reference clock signal (fig. 6, output SACLK is delayed dependent on different S1 ~ S6 input, whose reference clock is CCPULSE).

Regarding **claim 25**, Churchill et al. also disclose the apparatus of claim 21, wherein the clocked circuit comprises a read circuit for reading data from the CAM array (fig. 2, sense amplifier 214).

Regarding **claim 30**, Churchill et al. also disclose the apparatus of claim 21, further comprising: a second clocked circuit (col. 4, line 66 – col. 5, line 6); and a second programmable delay circuit (fig. 9 shows a programmable delay circuit with

output CCPULSE and either fig. 6 or 7 uses the CCPULSE for further delays, hence at least two delay circuits).

Regarding **claim 47**, Churchill et al. also disclose the method of claim 46, further comprising programming the second programmed information based on an anticipated frequency of operation for the reference clock signal (fig. 2, reference clock signal CLK referenced to all other clocks and delayed clocks in the circuit).

Allowable Subject Matter

5. **Claims 23, 26 – 29** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior arts teach an apparatus and method for a cam array with clock circuit and programmable delay circuit as claimed except further comprising:

The programmable delay circuit further comprises a decoder coupled to the programmable register to decode the particular delayed clock signal information stored in the programmable register; or

The clocked circuit comprises a register for storing comparand data for comparison with data of the CAM array; or

The CAM array comprises a plurality of rows of CAM cells each having a corresponding match line for carrying a match signal indicative of whether comparand data matches data of the corresponding row of CAM cells.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8 When responding to the office action, Applicant(s) are advised to provide the examiner with the page and line numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9 A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02(b)).

10. Any inquiry concerning this communication on earlier communications from the examiner should be directed to Ly Pham, whose telephone number is **571-272-1793**. The examiner can normally be reached on Monday – Friday from 8:30am to 5:00pm, alternate Friday off. The examiner's supervisor, David Nelms, can be reached at **571-272-1787**. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Ly Pham



April 14, 2004



David Nelms
Supervisory Patent Examiner
Technology Center 2800